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REVIEW OF PROGRESS ON WATER-RELATED ISSUES: CONSIDERATION OF NEW INSTRUMENTS FOR GLOBAL ACTION

International instruments with implications for global action

Report of the Secretary-General

SUMMARY

The present report - which has been produced in response to Economic and Social Council decision 1993/302, in which the Council approved, as recommended by the Committee on Natural Resources, the provisional agenda and documentation for the second session of the Committee, as set out in the report of the Committee on its first session 1/ - was prepared, under the rubric of "Review of progress on water-related issues", on activities related to instruments for global action in other environmental areas and on the substantive content of such instruments (including an analysis of issues related to formalizing the rights of humanity and the relevant duties of Governments. The report describes the main elements of various international instruments that focus on water and environment, with emphasis on the principles deriving from the 1992 International Conference on Water and the Environment held in Dublin, and on Agenda 21 2/ as it relates to freshwater resources.

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I. PRELIMINARY OBSERVATIONS

1. The range of instruments that may be relevant for countries to consider in drafting international water-related legislation runs from formalized bilateral arrangements, to multilateral treaties, to actions by intergovernmental bodies and accredited non-governmental organizations. Today, there is an emerging consensus that all nations and peoples have a common responsibility to protect the Earth. Agenda 21, arising from the United Nations Conference on Environment and Development, held at Rio de Janeiro in June 1992, is currently the centre-piece of international cooperation and of the coordination of activities within the United Nations system, and will remain so for years to come. Agenda 21 spells out an action plan to implement the concept of sustainable development that can only be achieved by international cooperation. In order to meet the challenges of environment and development, States have decided to establish a new "global partnership" inspired by the need to achieve a more efficient and equitable world economy. That partnership commits all States to engage in a "continuous and constructive dialogue" to achieve a more efficient and equitable world economy - one built upon and reinforcing the concept of sustainable development.

2. Each item taken up in this report is deemed to have made a contribution to global matters of some importance with respect to the protection or improvement of environmental components associated with a more rational, integrated management of freshwater resources on a sustainable basis.

3. "Earth has been variously called the planet of water and the planet of life, the connection between the two attributes being by no means casual. Without water, there simply can be no life. Water flows in the veins and roots of all living organisms, as precious to them as the air they breathe and the food they eat. It is the lifeblood of their collective body." 3/ Precious freshwater resources cannot be protected and conserved solely by countries acting alone, however, because a major proportion of those resources are contained in international basins. Moreover, international measures related to the interactive role of water resources have considerable relevance to all matters involving environmental protection.

4. Beyond the legislation and regulations in a number of water-related fields that have been adopted by States during the last decade, 4/ there have been a number of highly relevant international agreements and collateral efforts demonstrating the increased awareness of water's pivotal position with respect to dealing with such matters as pollution, waste disposal, and product production. 5/

5. Equitable sharing of the environmental component of the international commons is of grave importance to the community and absolutely essential for the health of humanity. Many international instruments have been adopted that embody principles reflecting the fact that transboundary natural resources should be used in a reasonable and equitable manner. Although the notion of equitable sharing of the atmosphere is still embryonic because of existing environmental degradation and foreseeable threats of damage, development in this direction must be guided by the principles of equitable utilization and

participation. Such principles have been taken into consideration by recent environmental treaties such as the Montreal Protocol on Substances that Deplete the Ozone Layer (signed in 1987), and the Convention on Biological Diversity (1992) in which equitably shared burdens and common but differentiated responsibilities are placed on developed and developing countries.

6. Certainly from a global perspective progress in matters concerning water and the environment - fragmentary and often lacking adequate enforcement, monitoring and institutional efficacy - can be demonstrated.

II. INTERNATIONAL AGREEMENTS

A. Helsinki Convention of 1992

7. Under the auspices of the Economic Commission for Europe (ECE), the ECE countries convened in Helsinki, Finland, in March 1992 to conclude a salient and comprehensive treaty entitled the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (E/ECE/1267). Twenty-four States, plus ECE, signed the Convention at that time. 6/

8. The Convention is aimed at strengthening "national and international measures to prevent, control and reduce the release of hazardous substances into the aquatic environment and to abate eutrophication and acidification, as well as pollution of the marine environment, in particular coastal areas, from land-based sources" (preamble). The Convention recalls (as antecedents), inter alia, the Declaration of the United Nations Conference on the Human Environment, 7/ held in 1972 in Stockholm, the Final Act of the Conference on Security and Cooperation in Europe, and the Regional Strategy for Environmental Protection and Rational Use of Natural Resource in ECE Member Countries Covering the Period up to the Year 2000 and Beyond. These and other exemplary instruments produced by the ECE's highly regarded Working Party on Water Problems not only provide sound guidance to the European group, but also constitute a paradigm worthy of careful study, if not emulation, by many countries around the world.

9. The topics treated include the entire gamut of water-related problems, such as flood management, drought management, 8/ water pollution control, cooperation in the field of transboundary waters, groundwater management, rational use of water in industrial processes, waste-water treatment, protection of soil and aquifers against non-point source pollution, an ecosystems approach to water management, institutional arrangements, monitoring and data for processing, warning and alarm systems and water for agriculture. 9/

10. The recent Helsinki Convention deals with transboundary impacts on transboundary waters, including "effects on human health and safety, flora, fauna, soil, air, water, climate, landscape and historical monuments or other physical structures or the interaction among these factors", and "on the cultural heritage or socio-economic conditions resulting from alterations to those factors" (article 1, para. 2). Generally, the "best available technology" is required for use in achieving convention objectives; "hazardous substances"

are defined as "substances that are toxic, carcinogenic, mutagenic, teratogenic or bio-accumulative, especially when they are persistent" (article 1, para. 6).

11. Waters are to be used in a "reasonable and equitable way" with the aim of ecologically sound and rational water management, to ensure conservation and restoration of ecosystems, where necessary. Measures taken must not result in a transfer of pollution to other parts of the environment; the cost of pollution prevention, control and reduction is to be borne by the polluter (articles 2 and 3).

12. Numerous additional provisions create duties and goals pertaining, inter alia, to environmental impact assessment, treatment of waste water, prevention of groundwater pollution, joint monitoring and water-quality objectives and criteria, warning and alarm systems, and settlement of disputes. However, the recent tendencies in some circles to promote consideration of an individual's legal right to adequate potable water-supplies, to freedom from hazardous substances in the environment, and to "public participation" in the decision-making process, or to establish water resources as part of the "global commons" are not taken up. 10/

B. Basel Convention of 1989

13. With the aim of drawing up a comprehensive treaty on the conveyance of hazardous waste across frontiers, a conference of plenipotentiaries in Basel, Switzerland, finalized the 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (UNEP/10.80/3, 22 March 1989). Such movements and final dispositions, which often incorporate water, must be effected in a manner consistent with the protection of the environment, and the conservation of natural resources, under conditions that do not endanger human health (preamble). The Basel Convention refers to the Cairo Guidelines and Principles for the Environmentally Sound Management of Hazardous Wastes (adopted by the Governing Council of UNEP in its decision 14/30 of 17 June 1987) and takes into account the Declaration of the United Nations Conference on the Human Environment (Stockholm, 1972). Hazardous wastes, whose movement is to be controlled and managed, are classified using three categories (annexes I, II and III).

14. Disposal operations are separated into those "which do not lead to the possibility of resource recovery, recycling, reclamation, direct re-use or alternative uses" (annex IV A) and those that may (annex IV B). The former category pays considerable attention to means involving land use, including injection of pumpable discards into wells, and impoundment of liquid or sludge discards in pits, ponds or lagoons, etc.; and release into a water body. Stringent regulation of disposal practices is prescribed for many of the permissible inter-State movements and disposals of hazardous wastes. Radioactive wastes, and wastes derived from normal ship operation, since they are controlled specifically by other international instruments, are excluded from the scope of the Basel Convention (article 1, paras. 3 and 4).

C. Convention on Environmental Impact Assessment, 1991

15. At Espoo, Finland, a major treaty, open to States that were members of, or in consultative status with, ECE, and to certain regional economic integration organizations, was signed in 1991. The treaty's full title was Convention on Environmental Impact Assessment in a Transboundary Context (E/ECE/1250); its purpose was "to ensure environmentally sound and sustainable development" and "to enhance international cooperation in assessing environmental impact in particular in a transboundary context" (preamble).

16. The Parties to the Espoo Convention are bound to take "all appropriate and effective measures to prevent, reduce and control significant adverse transboundary environmental impact from proposed activities" (article 2, para. 1). According to the Espoo Convention, to that end, the proposing Party shall "ensure that ... an environmental impact assessment is undertaken prior to a decision to authorize or undertake a proposed activity ... that is likely to cause a significant adverse transboundary impact" (article 2, para. 3). Appendix I of the Espoo Convention is a comprehensive list of such activities, involving, inter alia, crude oil refineries; coal gasification and liquification installations; thermal and nuclear power stations; nuclear fuel production, reprocessing and irradiated nuclear fuels; storage, disposal and processing of nuclear waste; cast-iron and steel smelting and production of non-ferrous metals; asbestos extraction, processing and transformation; integrated chemical installations; large-diameter oil and gas pipelines; inland waterways and major ports; waste disposal installations, including landfill of toxic and dangerous wastes; large dams and reservoirs; groundwater abstraction of 10 million or more cubic metres annually; pulp and paper manufacturing of 200 air-dried metric tons or more per day; major mining; major storage facilities for petroleum, petrochemical and chemical products; and large-area deforestation.

17. According to the Espoo Convention, originating Parties shall provide, "an opportunity to the public in the areas likely to be affected to participate in relevant environmental impact assessment procedures" (article 2, para. 6). The Espoo Convention's required environmental impact assessments shall, "as a minimum requirement, be undertaken at the project level of the proposed activity" (article 2, para. 7).

18. According to the Espoo Convention, "for a proposed activity listed in (its) appendix I that is likely to cause a significant adverse transboundary impact, the Party of origin shall ... notify any Party which it considers may be an affected Party, as early as possible" (article 3, para. 1). The notification shall contain any available information on the proposed activity's "possible transboundary impact; the nature of the possible decision; and an indication of a reasonable time" for responding (article 3, para. 2). Subsequent procedural steps to be followed are also set forth (article 3, paras. 3-8, and articles 4-6).

D. Ramsar Convention on Wetlands, 1971

19. The Convention on Wetlands of International Importance Especially as Waterfowl Habitat 11/ was signed in Ramsar, Iran, in 1971. In view of "the fundamental ecological functions of wetlands as regulators of water regimes and as habitats supporting a characteristic flora and fauna", and the need "to stem the progressive encroachment on and loss of wetlands", the Contracting Parties to the Convention express confidence with regard to protecting and restoring wetlands "by combining far-sighted national policies with coordinated international action" (preamble). This Convention has received broad recognition globally.

20. Article 1 of the Ramsar Convention defines wetlands as "areas of marsh, fen, peatland or water, ... with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres". Each Contracting Party agrees to "designate suitable wetlands within its territories for inclusion in a List of Wetlands of International Importance" to be maintained by the bureau established under article 8 (article 2). According to the Ramsar Convention the Parties "shall formulate and implement their planning so as to promote the conservation of the wetlands included in the List, and as far as possible the wise use of wetlands in their territory", reporting changes resulting from pollution or other human interference (article 3). Conservation measures set forth include establishing nature reserves on wetlands and providing adequately for their wardening (article 4).

21. The Parties pledge to "consult with each other about implementing obligations ... especially in the case of a wetland extending over the territories of more than one Contracting Party or where a water system is shared by Contracting Parties" (article 5). The Convention remains open for signature to "any member of the United Nations or of one of the Specialized Agencies or of the International Atomic Energy Agency or Party to the Statute of the International Court of Justice" (article 9). Thus, this Convention has the potential for extremely wide application, as awareness of the seriousness of wetlands preservation, reclamation and recovery develops.

E. Convention on Biological Diversity

22. The Convention on Biological Diversity, which arose out of the United Nations Conference on Environment and Development (Rio de Janeiro, June 1992), recognizes that international action and cooperation are urgent because of the immediacy of the threat that loss of biological diversity entails. This landmark Convention has been signed by all countries that were present at UNCED. The Convention was adopted after four years of deliberation by an Intergovernmental Negotiating Committee functioning under the United Nations Environment Programme (UNEP). The Convention aims to promote "conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of it the utilization of genetic resources" (article 1). It affirms that conservation of diversity is a common concern of mankind. At the same time, it reiterates that "States have sovereign rights over their own biological resources" (preamble). It adopts a holistic

approach to the problem by integrating the conservation and sustainable use of biological diversity into the relevant sectoral or cross-sectoral plans and policies. The special needs of developing countries are taken into consideration. The Convention concentrates on ensuring effective national action to curb the destruction of biological species, habitats and ecosystems, rather than on setting international norms.

23. Article 20 of the Convention on Biological Diversity contains the legal framework with respect to the providing of new and additional financial resources to enable developing countries to fulfil the obligations of this Convention.

III. SELECTED WATER-RELATED INTERNATIONAL INSTRUMENTS

24. In addition to the recent and important international instruments examined above, some of the other recent international actions specifically related to freshwater resources need to be covered briefly.

A. Dublin Statement and the Report of the International Conference on Water and the Environment

25. In January 1992, agencies of the United Nations system convened, in Dublin, the International Conference on Water and the Environment, which was preparatory to the United Nations Conference on Environment and Development (also known as the Earth Summit), held in Rio de Janeiro in June 1992. The Dublin Conference was clearly the most comprehensive global meeting on water resources since the United Nations Water Conference, held in 1977 at Mar del Plata, Argentina.

26. The principal objectives of the Conference, as set forth in the preface to the Dublin Statement and the Report of the Conference, 12/ included assessment of the current status of the world's freshwater resources and identification of priority issues for the 1990s; development of coordinated intersectoral approaches to managing those resources by strengthening the linkages between water programmes; formulation of environmentally sustainable strategies and action programmes for the 1990s and beyond; and promotion of increased awareness of the environmental consequences and development opportunities in improving the management of water resources.

27. Individual working groups focused on integrated water resources development and management; water resources assessment and impacts of climate change on water resources; protection of water quality and aquatic ecosystems; water and sustainable urban development and drinking-water supply and sanitation in the urban context; water for sustainable food production and rural development and drinking-water supply and sanitation in the rural context; and implementation and coordination mechanisms at global, national, regional and local levels.

28. It was agreed that concerted action was needed to reverse the current trends of overconsumption, pollution, and rising threats from drought and floods. Recommendations for action at all levels were grounded on four cardinal guiding principles: 13/ first, that fresh water was a finite and vulnerable

resource, essential to sustain life, development and the environment; second, that water development and management should be based on a participatory approach, involving users, planners and policy makers; third, that women played a central part in the provision, management and safeguarding of water; and fourth, that water had an economic value and should be recognized as an economic good.

29. It was acknowledged, within guiding principle No. 4, that it was "vital to recognize first the basic right of all human beings to have access to clean water and sanitation at an affordable price". Failure to recognize that rule in the past, including water's economic value, had resulted in wasteful and environmentally damaging uses of the resource, rather than in the achievement of efficient and equitable use, and encouragement of conservation and protection.

30. Recommendations for action were made under the following headings 14/ describing the principal benefits to be derived from implementation of the Dublin recommendations: alleviation of poverty and disease; protection against natural disasters; water conservation and reuse; sustainable urban development; more efficient agricultural production and rural water-supply; protection of aquatic ecosystems; resolution of water conflicts; provision of the enabling environment; augmentation and strengthening of the knowledge base; and building up of the requisite capacity.

31. A separate, well-thought-out section of the report of the Conference 15/ is dedicated to "integrated water resources development and management", organized around four principles. Since water sustains all life forms, a holistic approach is needed for the development of human societies and economies, and the protection of natural ecosystems, that includes not only the need to comprehend the entire hydrologic cycle involving interaction with the natural environment and land use, but also intersectoral needs. The holistic approach embraces an ecological approach, taking into account issues that stretch across the whole of a river basin or a groundwater aquifer, and giving consideration to the interrelation with other natural resources. According to the report of the Conference, where catchments cross national boundaries, international cooperation is essential (para. 2.2).

32. Given the importance of water to society, "everyone, particularly women and the underprivileged, should have a right of reasonable access at an affordable price" (para. 2.5). Other consequential subcategories are treated including information base and know-how; human resources development; public awareness; institutional and legal arrangements; demand management; law; finance; and investment (paras. 2.7-2.19).

33. Without detailed assessment, it is impossible properly to plan, design, construct, operate and maintain projects; to mitigate droughts and flood losses; to provide industrial and domestic-water supply, urban drainage, and energy production; to supply water for agriculture or fisheries; to undertake health measures or to preserve aquatic ecosystems and coastal waters (para. 3.2).

34. Little further examination of the report of the Dublin Conference can be made here, but section 4 of the report examines in greater detail than the Dublin Statement protection of water resources, water quality and aquatic

ecosystems. Section 5 of the report deals with water and sustainable urban development and drinking-water supply and sanitation in the urban context; section 6 deals with water for sustainable food production and rural development and drinking-water supply and sanitation in the rural context. Section 7 examines mechanisms for implementation and coordination at international, national and local levels, and section 8 presents options for follow-up.

B. Report of the United Nations Conference on Environment and Development: pertinent provisions of Agenda 21 (chapter 18)

35. The now-famous Agenda 21, 2/ the massive result of the United Nations Conference on Environment and Development, held in Rio de Janeiro in 1992, constitutes an all-inclusive treatment of the vast number of items affecting the planet's environmental plight, with attention to schemes for realizing socio-economic growth and development on a sustainable basis. Chapter 18 of Agenda 21 is devoted to "Protection of the quality and supply of freshwater resources: application of integrated approaches to the development, management and use of water resources". 16/

36. Virtually all environmental issues are directly or indirectly linked to freshwater issues. We have reached a stage where freshwater issues often become the limiting factor for sustainable development. Poor land-use management (for example, deforestation, non-sustainable agriculture, mining and urbanization) can lead to increased erosion, eutrophication and soil loss in river basins; sedimentation in large reservoirs may reduce the quantity of nutrients available downstream and to coastal waters. Acidification of surface waters and some groundwaters can lead to depletion of freshwater living resources, contributing thereby to the loss of biodiversity. Hydropower and irrigation dams, stream channelization, overabstraction from aquifers, and use of water bodies as open sewers can lead to salinization, saltwater intrusion into coastal aquifers, and serious water pollution problems.

37. Widespread scarcity, gradual destruction and aggravated pollution of freshwater resources in many world regions, along with the progressive encroachment of incompatible activities, demand, consequently, integrated water resources planning and management. Such integration must cover all types of interrelated freshwater bodies, including both surface water and groundwater, and duly consider water quantity and quality aspects. The multisectoral nature of water resources development in the context of socio-economic development must be recognized, as well as the multi-interest utilization of water resources for water supply and sanitation, agriculture, industry, urban development, hydropower generation, inland fisheries, transportation, recreation, lowlands and flat lands management and other activities. Rational water utilization schemes for the development of surface and underground water-supply sources and other potential sources have to be supported by concurrent water conservation and wastage minimization measures. Priority, however, must be accorded to flood prevention and control measures, as well as to sedimentation control, where required.

38. Water-related diseases are a major health problem, especially in developing countries. Diseases caused by microbiological pollution or transmitted by water-associated vectors, and those related to inadequate sanitation and the absence of clean water, are widespread. To ignore the linkages between freshwater issues and other sectoral issues could result in severe social, economic and human health consequences.

39. The Mar del Plata Action Plan, 17/ resulting from the United Nations Water Conference, held in 1977, plus the strategies for the 1990s resulting from Economic and Social Council resolution 1991/85, is still considered valid as the basis for national and international action programmes in the freshwater sector. Agenda 21 for this sector is based on those strategies, on the results of the Global Consultation on Safe Water and Sanitation for the 1990s, held in New Delhi in September 1990, on the recommendations of the International Conference on Water and the Environment (Dublin, 1992), and on the work of the Preparatory Committee for the United Nations Conference on Environment and Development.

40. From the general objectives, the following programme areas became the individual sections composing the main body of chapter 18 of Agenda 21:

(a) Integrated water resources development and management;

(b) Water resources assessment;

(c) Protection of water resources, water quality and aquatic ecosystems;

(d) Drinking-water supply and sanitation;

(e) Water and sustainable urban development;

(f) Water for sustainable food production and rural development;

(g) Impacts of climate change on water resources.

41. Integrated water resources development and management involves many elements, requiring, inter alia, the transfer, adaptation and diffusion of new techniques and technology among developing countries, as well as the development of endogenous capacity, for the purpose of being able to deal with the added dimension of integrating engineering, economic, environmental and social aspects, and predicting the effects in terms of human impact.

42. While the ramifications and importance of each of the many factors put forward in chapter 18 of Agenda 21 are familiar to many engaged in the water resources sector, Agenda 21 speaks also to persons immersed to a lesser degree in the concerns of modern water resources management, including those specialized in other sectors and political leaders. The impact of this exhaustive output from the United Nations Conference on Environment and Development will be the focus of intensive dissection for several years at least, although the capacity of the international community and of individual countries (especially developing countries) to execute many of the tasks called for may be limited.

C. Other programmes and actions

1. International Drinking Water Supply and Sanitation Decade

43. The General Assembly, in its resolution 35/18 of 10 November 1980, proclaimed the period 1981-1990 as the International Drinking Water Supply and Sanitation Decade. In its resolution 45/181 of 21 December 1990, the Assembly expressed deep concern that the current rate of progress remained slow and would leave a very significant number of poor people in urban and rural areas without suitable and sustainable services in water and sanitation by the year 2000, and recognizes that the 1990s would require an intensification of national efforts and international cooperation. The New Delhi Statement (A/C.2/45/3), resulting from a United Nations Development Programme-organized Global Consultation on Safe Water and Sanitation for the 1990s, advanced, inter alia, the necessity of protecting the environment and health and the need for institutional reforms (including the full participation of women), keeping in view the requirements and continuing shortfall in the fields of water supply and sanitation. Coordination of activities should be intensified, particularly through the inter-agency Administrative Committee on Coordination (ACC) Subcommittee on Water Resources and the new Water Supply and Sanitation Collaborative Council, as mentioned in Assembly resolution 45/181.

2. Delft Declaration, 1991

44. A UNDP-sponsored symposium, held in Delft, the Netherlands, in 1991, produced A Strategy for Water Resources Capacity-Building in the next century called the Delft Declaration. 18/ "Between 1950 and 2000," the Declaration begins, "the world population will have more than doubled". It continues: "Of 22 metropolises of more than 10 million people, 18 will be in the developing countries of Asia, Africa and Latin America. By 2025, 60 per cent of the world population, more than 5 billion people, will be living in cities. Water directly affects their public health and economic development opportunities. In addition, large proportions of the rural population are likely to remain unserved" (para. 1).

45. The Delft Declaration emphasizes the challenge of satisfying those needs, while noting the increasing need for irrigated agriculture, and the consequences of urban and industrial pollution. It states that "measures have to be taken to protect and conserve the water as major resource and unifying element of our environment" (para. 2). Institutional weaknesses and malfunctions are pointed up as major causes of ineffective and unsustainable water services, requiring urgent attention to building institutional capacity and making it more demand-responsive. The challenge is to upgrade the development of policies, rules, organizations and management skills so as "to better manage water resources coherently", which calls for "an expansion of national, integrated planning" (para. 3).

46. Capacity-building is increasingly recognized as an important, long-term, continuing process in achieving sustainable development. Community organizations and water-user associations need to be supported and given productive participation; the pivotal role of women in water-related activities,

and their proved capabilities to carry out managerial assignments, call for continued attention.

47. It was recommended in the Delft Declaration that the Declaration be transmitted to the 1992 International Conference on Water and the Environment (Dublin), and subsequently to the United Nations Conference on Environment and Development "to emphasize the special importance of capacity-building in integrated fresh-water resources management". The Delft Symposium's useful conclusions and recommendations are articulated in an annex to the Delft Declaration entitled "Helping countries to solve their problems themselves".

48. "The main objective of capacity-building is to improve the quality of decision-making, sector efficiency and managerial performance in the planning and implementation of water sector programmes and projects" (annex to the Delft Declaration, para. 6). In that context, "due attention must be given to the legal and institutional arrangements needed to address the development, use and protection of internationally shared water resources" (annex to the Delft Declaration, para. 14).

3. Regional developments

49. The 1993 list of Bilateral and Multilateral Agreements and Other Arrangements in Europe and North America on the Protection and Use of Transboundary Waters (ECE/ENVWA/32) shows that more than just a few international watercourses are still not covered by agreements or arrangements, particularly watercourses bordering or transiting the newly created States of Eastern Europe and Western Asia. On the other hand, the Russian Federation and Kazakhstan entered into an agreement (27 August 1992, at Orenburg, Russian Federation) on the joint use and protection of shared water resources against pollution. A similar agreement between Ukraine and the Russian Federation was concluded in October 1992.

50. The 1990 Action Plans for the Rivers Saar and Moselle require that their commissions work together closely. Contemplated under the Action Plans is, inter alia, a 50 per cent reduction of industrial, urban and diffuse discharges of 14 priority pollutants between 1985 and 1995. The Saar and Moselle commissions are responsible for the phased implementation of the reduction measures, the assessment of discharges, the definition of concrete actions to be taken, and the preparation of further action required to achieve compliance with the agreement's objectives by the year 2000. Under an agreement in 1990 between the former Czechoslovakia, Germany and the European Community, an International Commission for the Protection of the Elbe River was created to attain the objectives of the 1991 Programme Concerning the Reduction of the Noxious and Hazardous Substances Load of the River Elbe and its Catchment Area. Guaranteed drinking-water production and ecosystems improvement in the catchment area are planned for the purpose of attaining (as closely as possible) the natural state of the system. In addition, several new agreements are in preparation between two or more Eastern European States, and some earlier existing agreements are under revision. Water-quality monitoring, plus water-level and flow rate measurements, is now covered in many of the European agreements, best exemplified by the monitoring programmes of the Rhine and Elbe commissions,

which now cover hydrobiological or microbiological data, as well as data on quantity and quality of suspended and bottom sediment, in addition to the traditional water flow and instream-quality data. 19/

4. Other relevant principles

51. According to the principle of prior consultation, a State ought to consult another State when it is contemplating an action that may adversely affect that other State, even though such action would not be in violation of prevailing international law. The legal concept of prior consultation, well entrenched in international law, has been invoked by States facing environmental problems, especially those having transboundary aspects. It is important because it can operate proactively before an environmental problem occurs, rather than merely reactively after the problem has become a reality. The practice reflects the legal principle that an abuse of right is contrary to law, and the principle that the bearer of property rights must not cause significant harm to other parties (sic utere tuo, ut alienum non laedas).

52. The precautionary principle has emerged within the last few years as a new policy instrument requiring that substances or activities that may be detrimental to the environment could be regulated even without conclusive evidence of harmfulness. Before the effects of the damaging activities become irreversible, regulatory action should be taken. The "preventive" approach has been recognized in a number of recent declarations, including the Montreal Protocol amendment (1990) and the Convention on Biological Diversity. Fully implemented, the precautionary principle would require potentially polluting substances to be regulated before they could adversely affect the environment.

IV. INTERNATIONAL WATERCOURSES AND THE INTERNATIONAL LAW COMMISSION

53. The International Law Commission (ILC) has produced an "instrument" of potentially overarching importance, namely, the draft articles on the law of the non-navigational uses of international watercourses, adopted on first reading by the Commission in 1991. 20/ That tentative adoption came after 17 years of rigorous examination of, and polite debate on, each aspect of the topic. The several Special Rapporteurs appointed by the Commission over the years delved deeply into the historical development of international water resources law and, over time, proposed groups of articles supported by extensive commentary, taking into consideration the observations made in the Legal Committee (Sixth Committee of the General Assembly) each year. After the forty-third session of the Commission (1991) a new Special Rapporteur was named to shepherd the draft articles through to the second reading, after which the General Assembly will decide the disposition of the articles.

54. The draft articles begin by treating matters of scope and definition, of course, followed by the terms concerning watercourse agreements (part I, Introduction). Part II comprises general principles, and is followed by part III on planned measures, part IV on protection and preservation, and part V on harmful conditions and emergency situations. The articles conclude with

part VI (miscellaneous provisions). Only a few of the articles have, thus far, come under sharp criticism in the Legal Committee of the General Assembly and from the academic community. 21/ Nevertheless, there are disagreements still, for example with respect to the relationship between "equitable utilization and participation" on the one hand and "appreciable harm" on the other, in one particular case (articles 5 and 7). Another disagreement concerns the omission of provisions on the actual behaviour of "confined aquifers" (or confined groundwater) in the draft, and still another on the appropriateness of inserting at the last minute the requirement of "flowing into a common terminus".

55. In the absence of specific agreement between States sharing an international watercourse (watercourse States), it is intended that the residual rules of international law governing any conflict or dispute would be found in the ILC articles, though agreement between or among the contending Parties is always to be preferred. Special dispute avoidance and settlement articles that had been part of earlier Special Rapporteurs' proposals were forced out by the Commission.

56. That the International Law Commission was able to arrive at an agreed first reading set of principles and rules is remarkable in itself, and they will be quoted and used indefinitely (assuming second-reading approval and some form of endorsement by the General Assembly). The articles may even replace the extensive and influential earlier work by l'Institut de droit international (Institute of International Law) (for example, the 1979 Athens Resolution on the Pollution of Rivers and Lakes and International Law) and the International Law Association (for example, the famous Helsinki Rules on the Uses of the Waters of International Rivers, and the Seoul Rules on international groundwaters), among other non-governmental organizations that have made contributions to the subject.

V. CONCLUSIONS

57. There has thus been considerable forward movement concerning freshwater resources management, in the elaboration and expansion of the scope of international instruments designed to cope with the vicissitudes and the optimum utilization and protection of that precious resource: water. 22/ Consciousness indeed has been elevated, although water resources must continue to compete for human and financial resources with all the other sectors in the society and economy of every State.

58. Several significant trends are evident. Recognition of the necessity for the development, exchange and dissemination of relevant data and information, in particular in a transboundary context, has become widespread. The institution of broad-based procedures and consultations for environmental impact assessments with respect to proposed projects that may result in significant adverse impacts is appearing in most recent international agreements, as well as in technical meeting recommendations and declarations. The issue of the transport and disposal of wastes that are hazardous to human health or to the environment in general has gained global attention. Also, notification and warning obligations are becoming institutionalized.

Notes

1/ Official Records of the Economic and Social Council, 1993, Supplement No. 8 (E/1993/28), chap. I, sect. Q.

2/ Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, vol. I, Resolutions Adopted by the Conference (United Nations publication, Sales No. E.93.I.8 and corrigendum), resolution 1, annex II.

3/ Donald Worster, Rivers of Empire: Water, Aridity, and the Growth of the American West (New York, Pantheon, 1985), p. 19.

4/ On current national strategies and policies for the protection and use of transboundary waters for selected countries, see ECE document ENVWA/WP.3/R.30, 23 September 1993.

5/ For a review of earlier progress, see, inter alia, Experiences in the Development and Management of International River and Lake Basins, Proceedings of the United Nations Interregional Meeting of International River Organizations, Dakar, Senegal, 5-14 May 1981, Natural Resources/Water Series, No. 10 (United Nations publication, Sales No. E.82.II.A.17); and River and Lake Basin Development, Proceedings of the United Nations Interregional Meeting on River and Lake Basin Development with Emphasis on the Africa Region, Addis Ababa, Ethiopia, 10-15 October 1988, Natural Resources Water Series, No. 20 (United Nations publication, Sales No. E.90.II.A.10). See also Management of International Water Resources: Institutional and Legal Aspects. Report of the Panel of Experts on the Legal and Institutional Aspects of International Water Resources Development, Natural Resources/Water Series, No. 1 (United Nations publication, Sales No. E.75.II.A.2); Legal and Institutional Factors Affecting the Implementation of the International Drinking Water Supply and Sanitation Decade, Natural Resources/Water Series, No. 23 (United Nations publication, Sales No. E.88.II.A.21); and Institutional Issues in the Management of International River Basins: Financial and Contractual Considerations, Natural Resources/Water Series, No. 17 (United Nations publication, Sales No. E.87.II.A.16).

6/ The Convention is open to the States members of ECE as well as to States in consultative status with ECE, and also to regional economic organizations constituted of States members of ECE that have transferred competence over matters governed by the Convention to ECE (including competence to enter into such treaties).

7/ Document A/CONF.48/14/Rev.1, part one, chap. I.

8/ See also the document entitled "Flood and drought management in the ECE region" (ECE/WATER/35), 26 June 1984.

9/ See, for example, document ECE/WATER/47, 2 March 1987.

10/ But see S. McCaffery, "A human right to water: domestic and international implications", Georgetown International Law Review, vol. 5, No. 2 (fall 1992), and works cited therein; General Assembly resolution 37/137 of 17 December 1982 on protection against products harmful to health and the environment; H. Nito, "The evolutionary process of the principle of the right to a healthy environment and its background", in Biotechnologie, Ethik und Recht in wissenschaftlicher Zeitalter, Beiheft 39, T. Campbell and others, eds. (Stuttgart, 1991), pp. 39-43; J. Caillaux, "Human rights and international environmental disputes ...", Per un tribunale internazionale dell'ambiente (Milan, 1990), pp. 651-661; M. Bedjaoui, "The right to development", in International Law: Achievements and Prospects, M. Bedjaoui, ed. (Paris, UNESCO, 1991), pp. 1,177-1,203; G. Alfredsson and A. Ovsiouk, "Human rights and the environment", Nordic Journal of International Law, vol. 60 (1991), pp. 19-27; and J. I. Glazewski, "The environment, human rights and a new South African Constitution", South African Journal on Human Rights, vol. 7 (1991), pp. 167-184.

11/ United Nations, Treaty Series, vol. 996, No. 14583, p. 245.

12/ International Conference on Water and the Environment: Development Issues for the 21st Century, 26-31 January 1992, Dublin, Ireland. The Dublin Statement and the Report of the Conference (Geneva, World Meteorological Organization, 1992).

13/ Ibid., the Dublin Statement, guiding principles.

14/ Ibid., the action agenda.

15/ Ibid., Report of the Conference, sect. 2.

16/ See document E/C.7/1993/5, 15 February 1993, for a summary of the chapter's provisions.

17/ Report of the United Nations Water Conference, Mar del Plata, 14-25 March 1977 (United Nations publication, Sales No. E.77.II.A.12), chap. I.

18/ See A Strategy for Water Sector Capacity Building, Proceedings of the UNDP Symposium, Delft, 3-5 June 1991, International Institute for Hydraulic and Environmental Engineering (IHE) Report Series, No. 24, G. J. Alaerts, T. L. Blair and F. J. A. Hartvelt, eds. (Delft, the Netherlands, and New York, IHE and UNDP, 1991), part one.

19/ See ECE document ENVWA/WP.3/R.38, 29 September 1993. See also World Bank, Water Resources Management: A World Bank Policy Paper (Washington, D.C., International Bank for Reconstruction and Development/World Bank, 1993); and compare, Convention for the Protection of the Natural Resources and Environment of the South Pacific Region (1986), and Australian Intergovernmental Agreement on the Environment (between the Commonwealth, the States, the Capital Territory, the Northern Territory and the Local Government Association) (1992).

20/ See Official Records of the General Assembly, Forty-sixth Session, Supplement No. 10 (A/46/10), chap. III.

21/ The one thoroughly scholarly and detailed review thus far, entitled "The non-navigational uses of international watercourses", for which experts of international standing on the topic were brought together, is to be found in the Colorado Journal of International Environmental Law and Policy, vol. 3, No. 1 (special issue).

22/ A recent and remarkable manifestation of the growing, yet still imperfect acceptance of modern principles and rules applicable to international freshwater resources is to be found in River and Lake Basin Development, Proceedings of the United Nations Interregional Meeting on River and Lake Basin Development with Emphasis on the Africa Region, Addis Ababa, Ethiopia, 10-15 October 1988, Natural Resources Water Series, No. 20 (United Nations publication, Sales No. E.90.II.A.10), especially chap. I, sect. 3 (B), on recommendations with regard to legal and institutional aspects.